

COURSE INFORMATION					
Course Title	<i>Code</i>	<i>Semester</i>	<i>Lecture+Practice+Labrotory Hour</i>	<i>Credits</i>	<i>ECTS</i>
Radiology (Clinical Clerkship)	<i>MED</i> 515	Phase 5 / 9-10	26+14	3	3*
* ECTS credits are the university credits of the courses in Yeditepe University, Faculty of Medicine, Undergraduate Medical Education Program					
Prerequisites	The student that joins this course, should completed Phase 1, 2, 3 and 4 courses of medical faculty.				

Language of Instruction	English
Course Level	Second Cycle including First Cycle Degree (One Tier Programme)
Course Type	Compulsory
Course Coordinator	Neslihan Taşdelen, MD Prof.
The instructors	Neslihan Taşdelen, MD Prof. Gazanfer Ekinci, MD Prof. O. Melih Topçuoğlu, MD Assoc. Prof. Özgür Sarıca, MD Assoc. Prof. Filiz Çelebi, MD Assoc. Prof. Ayşegül Görmez, MD Assist. Prof
Assistants	
Goals	The course aims to equip the clerkship attendees with necessary knowledge and skills to recognize indications of basic and most commonly used radiological modalities and evaluate the results.
Content	<p>Week 1 (Introduction to Radiology) Radiation Physics X-Ray Safety and Protection Advanced MRI and CT Techniques and Postprocessing Neuroradiology Spinal Imaging Gastrointestinal and Hepatobiliary Imaging Cardiac Imaging Imaging of Musculoskeletal System PA Chest Radiograph Chest Imaging Clinical experience</p> <p>Week 2 Breast Imaging Genitourinary Imaging Vascular Imaging Vascular Interventions Imaging of Head & Neck Case-Based General Review Lecture</p>

Learning Outcomes <i>At the end of this clerkship, the student should be able to:</i>	Program Learning Outcomes	Teaching Methods	Assessment Methods
Knowledge			
1. Define the basic radiological modalities (direct radiography, ultrasonography, computerized tomography, magnetic resonance imaging)	1,1,1 -1,1,7 - 1,1,8	1,2,3	A, C
2. Outline basic knowledge on physical principles and mechanisms of basic radiological modalities (direct roentgenogram, ultrasound, computed tomography, magnetic resonance imaging)	1,1,1 - 1,1,7 - 1,1,8	1,2,3	A, C
3. recognize unwanted effects of X-ray radiation	1,1,1 - 1,1,3 - 1,1,4	1,2,3,12	A, C
4. explain ways of protection	1,1,1	1,2,3	A, C
5. choose optimal radiological modality in most commonly encountered pathologies in neurological, abdominal, thoracic, musculoskeletal conditions	1,1,7 - 1,1,8 - 1,1,9	1,2,3,12	A, C
6. choose optimal radiological modality in most commonly encountered breast diseases	1,1,7 - 1,1,8 - 1,1,9	1,2,3,12	A, C
7. choose optimal radiological modality in most commonly encountered vascular diseases	1,1,7 - 1,1,8 - 1,1,9	1,2,3	A, C
8. identify basic emergency conditions on extremity, lung, spinal radiographs	1,1,7 - 1,1,8 - 1,1,9	1,2,3	A, C
9. continue to inform responsible clinician about the radiological findings	1,1,11 - 1,1,12	1,2,3	A, C

Teaching Methods:	1: Lecture, 2: Question-Answer, 3: Discussion, 9: Simulation, 12: Case Study
Assessment Methods:	A: Testing B: Presentation C: Homework

COURSE CONTENT		
Week	Subject	Study Materials
1 st day	Introductory Session Introduction to Radiology	Materials for the course provided by instructor
1	Lecture Introduction to Radiology	Materials for the course provided by instructor
1	Lecture Radiation Physics	Materials for the course provided by instructor
1	Lecture X-Ray Safety and Protection	Materials for the course provided by instructor
1	Lecture Neuroradiology	Materials for the course provided by instructor
1	Lecture Spinal Imaging	Materials for the course provided by instructor
1	Lecture Gastrointestinal and Hepatobiliary Imaging	Materials for the course provided by instructor
1	Lecture Cardiac Imaging	Materials for the course provided by instructor
1	Lecture Musculoskeletal Imaging	Materials for the course provided by instructor
1	Lecture PA Chest Radiography	Materials for the course provided by instructor
1	Lecture Chest Imaging	Materials for the course provided by instructor
2	Lecture Breast Imaging	Materials for the course provided by instructor
2	Lecture Genitourinary Imaging	Materials for the course provided by instructor
2	Lecture Vascular Imaging	Materials for the course provided by instructor
2	Lecture Vascular Interventions	Materials for the course provided by instructor
2	Lecture Imaging of Head & Neck	Materials for the course provided by instructor
2	Lecture Case-Based General Review	Materials for the course provided by instructor
2	Lecture Discussion/Journal Club	Materials for the course provided by instructor
2	Assessment Session	
2	Program Evaluation Session Review of the Exam Questions, Evaluation of the Program	

NCC 2014 – Essential Medical Procedures (National Core Curriculum)	Performance Level
Reading and assessing direct radiographs (Gastrointestinal and Hepatobiliary Imaging Imaging of Musculoskeletal System PA Chest Radiography Imaging of Head & Neck Genitourinary Imaging Spinal Imaging, Cardiac Imaging)	2
Interpretation of screening and diagnostic imaging results (Neuroradiology Imaging of Musculoskeletal System Chest Imaging Breast Imaging Genitourinary Imaging Spinal Imaging Vascular Interventions Nonvascular Interventions Cardiac Imaging Imaging of Head & Neck Vascular Imaging)	2

RECOMMENDED SOURCES	
Textbook	Grainger and Allison's Diagnostic Radiology
Additional Resources	<ul style="list-style-type: none"> • Lecture Notes • www.radiopedia.com http://www.learningradiology.com

ASSESSMENT	
Questions Types (Pencil-Paper Tests)	Proportion (in Pass/Fail Decision)
Multiple Choice Questions	50%
Extended Matching Questions	5%
Key Features	20%
Short Response Essay Questions	25%
Total	100 %
Other Assessment Methods and Tools	Proportion (in Other Assessments Methods and Tools)
Oral Exam (OE)	90%
Evaluation of Case Presentation (Without Checklist)	5%
Evaluation of Student's Seminar (Without Checklist)	5%

Total	100 %
Pass/Fail Decision	Proportion (in Pass/Fail Decision)
Pencil-Paper Tests	50%
Other Assessments Methods and Tools	50%
Total	100 %

MATERIAL SHARING	
Documents	Via Google classroom
Assignments	Powerpoint presentations
Exams	Not shared

COURSE CATEGORY	Expertise/Field Courses
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COURSE'S CONTRIBUTION TO PROGRAM						
	PODG.1. Basic Professional Competencies	Contribution				
	POD.1.1. Clinical Competencies	1	2	3	4	5
PO.1.1.1.	values preventive health services, offers primary prevention (i.e. prevention of diseases for the protection of health), secondary prevention (i.e. early diagnosis and treatment) tertiary prevention (i.e. rehabilitation) and quaternary prevention (i.e. prevention of excessive and unnecessary diagnosis and treatment) services, provides consultancy on these issues.					X
PO.1.1.2.	employs a patient-centered approach in patient management.					X
PO.1.1.3.	recognizes most frequently occurring or significant clinical complaints, symptoms, signs, findings and their emergence mechanisms in clinical conditions.					X
PO.1.1.4.	takes medical history from the applicant himself/herself or from the individual's companions.					X
PO.1.1.5.	does general and focused physical and mental examination.					X
PO.1.1.6.	interprets findings in medical history, physical and mental examination.					X
PO.1.1.7.	employs diagnostic procedures that are used frequently at the primary health care level.					X
PO.1.1.8.	selects tests that have evidence-based high efficacy at the primary health care level and interprets results.					X
PO.1.1.9.	makes clinical decisions using evidence-based systematic data in health care service.					X
PO.1.1.10.	performs medical interventional procedures that are used frequently at the primary health care level.					X
PO.1.1.11.	manages healthy individuals and patients in the context of health care services.					X

PO.1.1.12.	keeps medical records in health care provision and uses information systems to that aim.					X
	POD.1.2. Competencies related to Communication					
PO.1.2.1.	throughout his/her career, communicates effectively with health care beneficiaries, co-workers, accompanying persons, visitors, patient's relatives, care givers, colleagues, other individuals, organizations and institutions.					X
PO.1.2.2.	collaborates as a team member with related organizations and institutions, with other professionals and health care workers, on issues related to health.					X
PO.1.2.3.	recognizes the protection and privacy policy for health care beneficiaries, co-workers, accompanying persons and visitors.					X
PO.1.2.4.	communicates with all stakeholders taking into consideration the socio-cultural diversity.					X
	POD.1.3. Competencies Related to Leadership and Management					
PO.1.3.1.	manages and leads within the health care team in primary health care organization.				X	
PO.1.3.2.	recognizes the principles of health management and health sector economy, models of organization and financing of health care services.				X	
PO.1.3.3.	recognizes the resources in the health care service, the principles for cost-effective use.				X	
	POD.1.4. Competencies related to Health Advocacy					
PO.1.4.1.	recognizes the health status of the individual and the community and the factors affecting the health, implements the necessary measures to prevent effects of these factors on the health.					X
PO.1.4.2.	recognizes and manages the health determinants including conditions that prevent access to health care.					X
	POD.1.5. Competencies related to Research					
PO.1.5.1.	develops, prepares and presents research projects				X	
	POD.1.6. Competencies related to Health Education and Counseling					
PO.1.6.1.	provides consultancy services and organizes health education for the community to sustain and promote the health of individual and community.					X
	PODG.2. Professional Values and Perspectives					X
	POD.2.1. Competencies related to Law and Legal Regulations					
PO.2.1.1.	performs medical practices in accordance with the legal framework which regulates the primary health care service.				X	
	POD.2.2. Competencies Related to Ethical Aspects of Medicine					
PO.2.2.1.	recognizes basic ethical principles completely, and distinguishes ethical and legal problems.					X
PO.2.2.2.	pays importance to the rights of patient, patient's relatives and physicians, and provides services in this context.					X
	POD.2.3. Competencies Related to Social and Behavioral Sciences					
PO.2.3.1.	relates historical, anthropological and philosophical evolution of medicine, with the current medical practice.					X

PO.2.3.2.	recognizes the individual's behavior and attitudes and factors that determine the social dynamics of the community.						X
	POD.2.4. Competencies Related to Social Awareness and Participation						
PO.2.4.1.	leads community with sense of responsibility, behavior and attitudes in consideration of individual behaviors and social dynamics of the community, and if there is a necessity, develops projects directed towards health care services.						X
	POD.2.5. Competencies Related to Professional Attitudes and Behaviors						
PO.2.5.1.	displays a patient-centered and holistic (biopsychosocial) approach to patients and their problems.						X
PO.2.5.2.	respects patients, colleagues and all stakeholders in health care delivery.						X
PO.2.5.3.	displays the proper behavior in case of disadvantaged groups and situations in the community.						X
PO.2.5.4.	takes responsibility for the development of patient safety and healthcare quality.						X
PO.2.5.6.	evaluates own performance as open to criticism, realizes the qualifications and limitations.						X
	PODG.3. Personal Development and Values						
PO.3.1.1.	embraces the importance of lifelong self-learning and implements .						X
PO.3.1.2.	embraces the importance of updating knowledge and skills; searches current advancements and improves own knowledge and skills.						X
PO.3.1.3.	uses English language at least at a level adequate to follow the international literature and to establish communication related to the profession.						X
	POD.3.2. Competencies Related to Career Management						
PO.3.2.1.	recognizes and investigates postgraduate work domains and job opportunities.					X	
PO.3.2.2.	recognizes the application requirements to postgraduate work/job domains, and distinguishes and plans any requirement for further training and work experience.					X	
PO.3.2.3.	prepares a resume, and recognizes job interview methods.					X	
	POD.3.3. Competencies Related to Protection and Development of Own Physical and Mental Health						
PO.3.3.1.	implements the rules of healthy living.						X
PO.3.3.2.	displays appropriate behavior specific to work under stressful conditions.						X
PO.3.3.3.	uses self-motivation factors.						X

ECTS ALLOCATED BASED ON STUDENT WORKLOAD BY THE COURSE DESCRIPTION			
Activities	Quantity / day	Duration (Hour)	Total Workload (Hour)
Course Duration (2 weeks)	10	5	50
Hours for off-the-classroom study (Pre-study, practice, review/week)	10	2	20
Homework	1	2	2
Exam	2	2	4
Total Work Load			76
Total Work Load / 30 (h)			2.53
ECTS Credit of the Course			3